LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES

OFFICE OF FISHERIES
INLAND FISHERIES SECTION

PART VI -B

WATERBODY MANAGEMENT PLAN SERIES

BAYOU DESIARD

WATERBODY EVALUATIONS & RECOMMENDATIONS

CHRONOLOGY

DOCUMENT SCHEDULED TO BE UPDATED ANNUALLY

January 2008 – Prepared by
Jesse Bahm, Biologist Manager, District 2
Ryan Daniel, Biologist Supervisor, District 2

Edited and Updated November 2009

Revised October 2012
Ryan Daniel, Biologist Manager, District 2

TABLE OF CONTENTS

WATERBODY EVALUATION

STRATEGY STATEMENT

Recreational

Sportfish species are managed to provide a sustainable population while providing anglers the opportunity to catch or harvest numbers of fish adequate to maintain angler interest and efforts.

Commercial

Bayou DeSiard does not support fish species that normally comprise a commercial fishery; therefore, a commercial fishing strategy is not used.

Species of Special Concern

No threatened or endangered species are known to exist in DeSiard. No invasive fish species have been recorded.

EXISTING HARVEST REGULATIONS

Recreational

All state regulations apply to Bayou DeSiard.

Commercial

All state regulations apply to Bayou DeSiard as well as a special regulation adopted in 1994 that prohibits the use of gill and trammel nets north of Shorty Payne Rd. These special regulations (Title 76, Part VII, Ch.1, Sec. 173) were originally implemented to protect triploid grass carp stocked by the department for vegetation control.

Species of Special Concern

None

SPECIES EVALUATION

Recreational

Largemouth Bass

Relative abundance, size distribution and size structure indices-

Electrofishing is the standard sampling method used to estimate various parameters of the largemouth bass (LMB) population, especially abundance and size distribution. Standardization of sampling and analysis of numerous samples performed over an extended time period are necessary for reliable estimates of fish populations. Largemouth bass are targeted as a species indicative of the overall fish population due to their high position in the food chain. One point of consideration related to electrofishing is that larger size groups of bass are typically under-represented in the samples. Gill net sampling is employed in an effort to collect these larger individuals. The following chart displays electrofishing catch rates for spring electrofishing samples averaged for all stations. The stations represented normally consist of 2 stations north of the fish hatchery bridge and 4 stations south of the bridge. Fisheries habitat north of the hatchery bridge is considered to be impaired due to overabundant floating and submerged vegetation, shallow depths, dense stands of trees, and a thick layer of organic detritus substrate. Poor water quality is a result of the aforementioned impairments. Habitat south of the bridge is generally deeper, has fewer trees, reduced amounts of vegetation and has substrate better suited for sportfish spawning. Electrofishing samples for Bayou DeSiard are now conducted in the spring and fall of every third year. Samples are timed at 900 seconds and are conducted at designated stations. A summary of spring electrofishing catch per unit effort (CPUE) is shown below (Figure 1.)

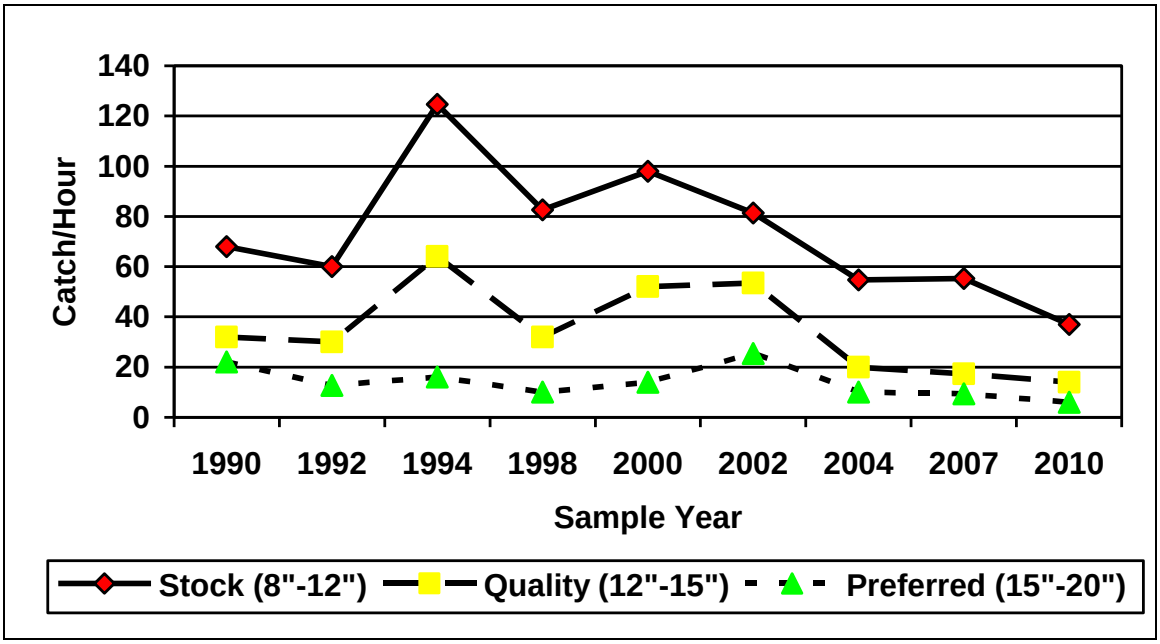

Figure 1. Catch per unit effort for stock-, quality-, and preferred-size largemouth bass from Bayou DeSiard, LA electrofishing samples, for 1990 – 2010.

Overall, the CPUE trends were the same for each size class each year, indicating a fairly balanced population. The CPUE values obtained from electrofishing are highly variable among different water bodies, with the values for DeSiard being considered "average", even though the majority of the fish sampled came from 4 of 6 stations (see the charts in the Condition Imbalance/Problems section below). Only four stations were sampled in 2010, with only one being above the bridge. Catch per unit effort for the 2004 - 2010 electrofishing samples remained slightly below the long-term average for all size classes (the 1998 sample is very close to the long-term average). The increased CPUE in 1994 can be attributed to an unusually high sample from electrofishing station 5, which includes a constricted area at the end of a section on the lower half of DeSiard at the Hwy. 165 crossing. At times, great concentrations of forage and bass will congregate in this location.

Charts portraying a significant difference in mean CPUE between stations in the upper and lower end are included below (Figures 2 and 3). The cause of lower CPUE samples in '04 and '07 is not known and is most likely a temporary deviation from the long-term average, but could possibly be attributed to sampling variance due to influences including weather, water quality, or vegetation abundance. In 2010, the CPUE for the single upper station sampled was 80, whereas the mean of the three lower stations was 45.3. The CPUE values for that sample represent a reversal from the values portrayed in figure 2.

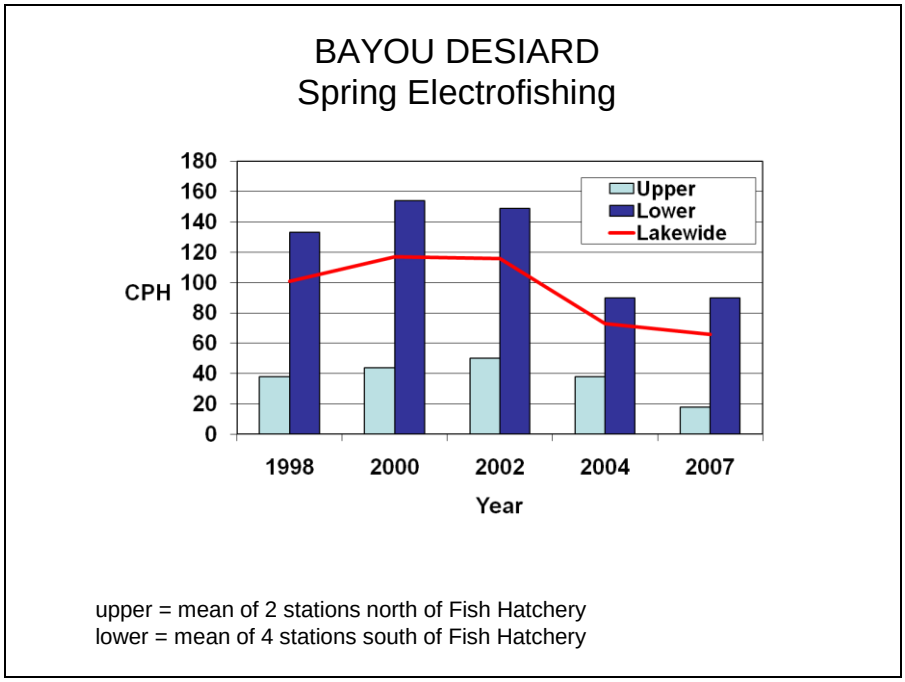

Figure 2. Bayou DeSiard spring electrofishing mean CPUE values for electrofishing sampling stations above and below the fish hatchery bridge from 1998 – 2007.

The chart below shows the CPUE for largemouth bass from spring electrofishing, listing the sampling stations in order from north to south (Figure 3). The first 3 stations listed are north of the fish hatchery bridge in the portion of the bayou considered most impacted. Although sample sizes (n) are small, there is a general trend of increasing CPUE from north to south.

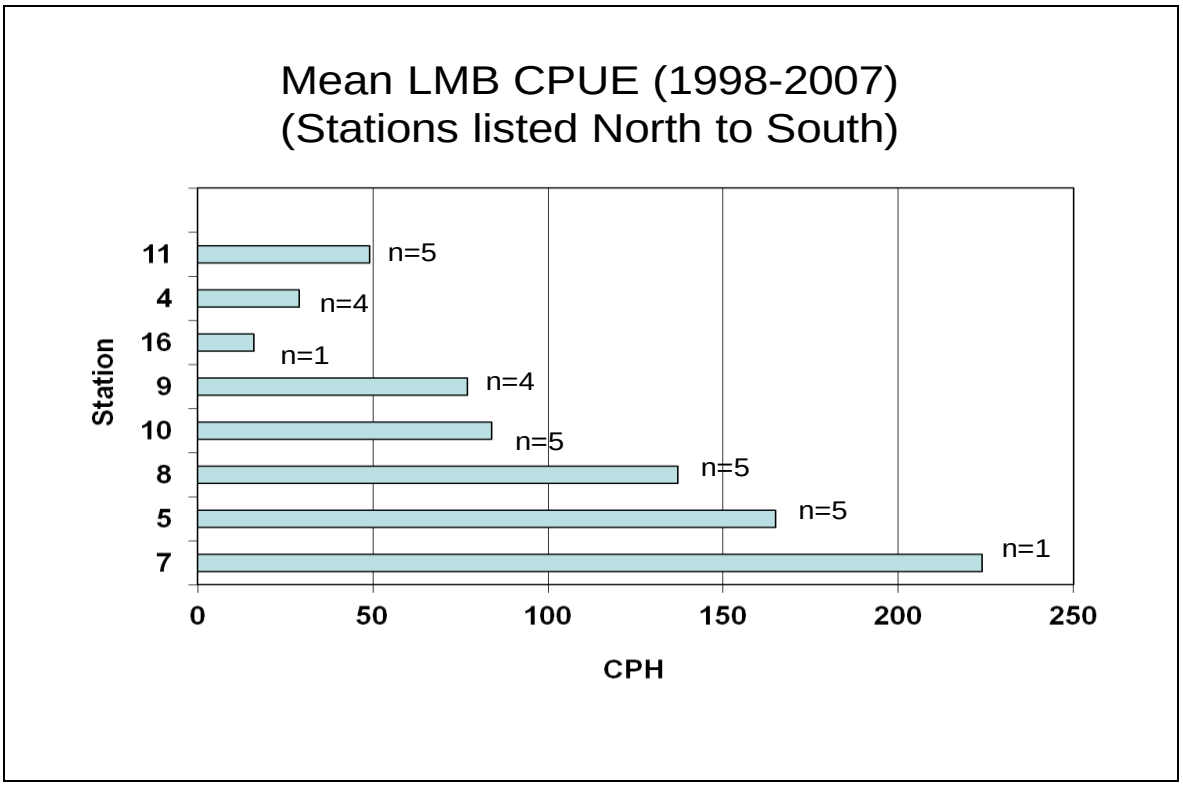

Figure 3. Mean CPUE for largemouth bass from spring electrofishing samples on Bayou DeSiard from 1998 – 2007. Sample stations are listed in order from the northernmost to southernmost to portray habitat gradient.

The following charts show the size distribution of largemouth bass sampled during 2004 and 2007 (Figure 4) and 2010 (Figure 5) fall electrofishing throughout Bayou DeSiard. The chart was generated from 4 stations sampled in 2007 and 2010, and 5 in 2004. The small difference in abundance between years in Figure 4 is likely caused by sampling variability. The length frequency for both years is typical of electrofishing results from a healthy bass population. The distribution of lengths indicates that reproduction has been consistent. The abnormally high numbers of bass less than 10 inches total length (TL) in 2010 (Figure 5) indicates exceptional recruitment of the 2009 cohort.

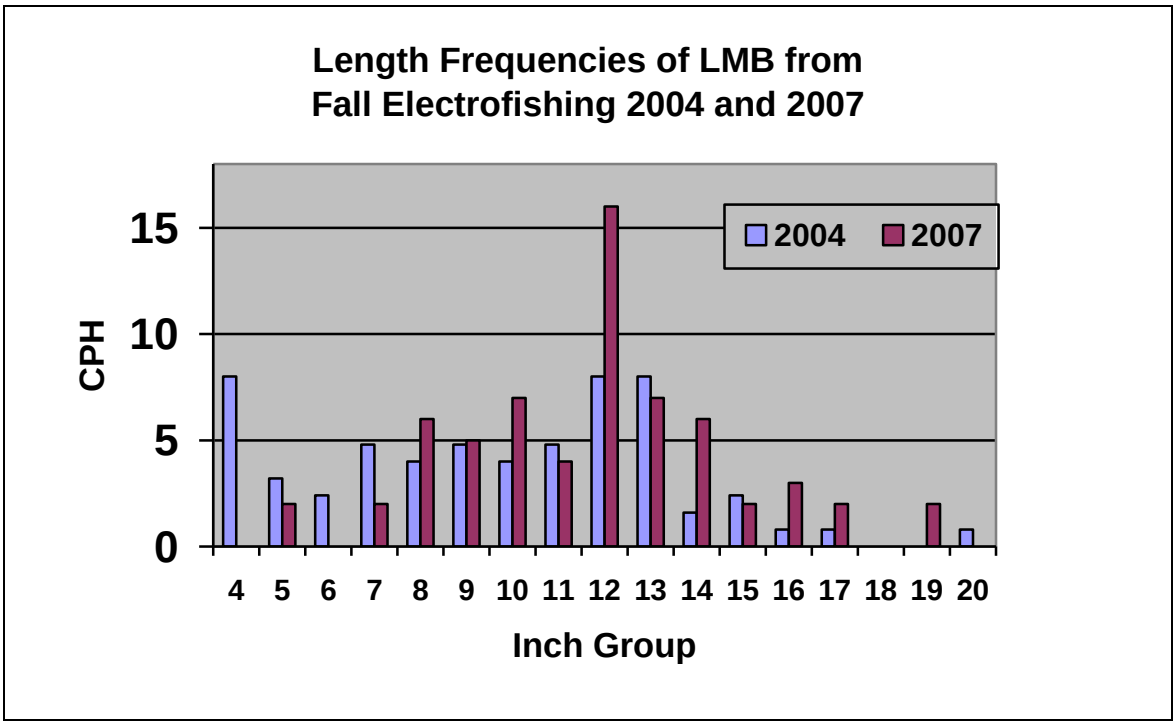

Figure 4. Size distribution (inch groups) of largemouth bass from fall electrofishing in Bayou DeSiard, LA in 2004 and 2007.

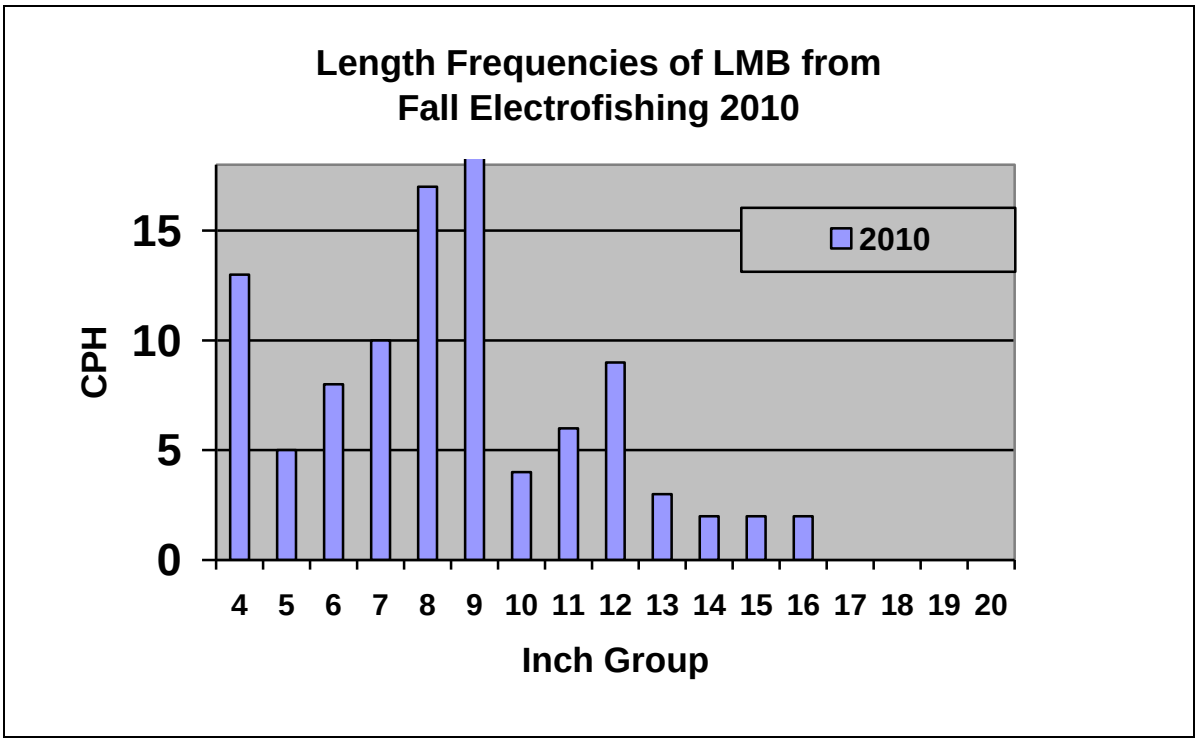

Figure 5. Size distribution (inch groups) of largemouth bass from fall electrofishing in Bayou DeSiard, LA in 2010.

Proportional stock (PSD) and relative stock density (RSD) are indices used to numerically describe length-frequency data. Proportional stock density is a percentage of the number of fish of quality size (≥12 inches for largemouth bass) to the number of fish of stock size (≥ 8 inches for largemouth bass).

$$PSD = \frac{\text{Number of bass} > 12 \text{ inches}}{\text{Number of bass} > 8 \text{ inches}} \times 100$$

A PSD value between 40 and 70 is considered normal for a balanced bass population. Values above 70 indicate a proportionally high number of bass larger than 12 inches. Values below 40 would indicate the opposite. Spring indices are usually higher than those from fall sampling for two reasons: 1) sexually mature (and generally larger) bass are more commonly associated with shallow shoreline habitat and more susceptible to capture by electrofishing, 2) Young of the year (YOY) bass are more abundant in the fall. Factors that affect real year to year changes include reproductive success, mortality, and growth rates. PSD and RSD (explained below) values are given in Figure 6 below.

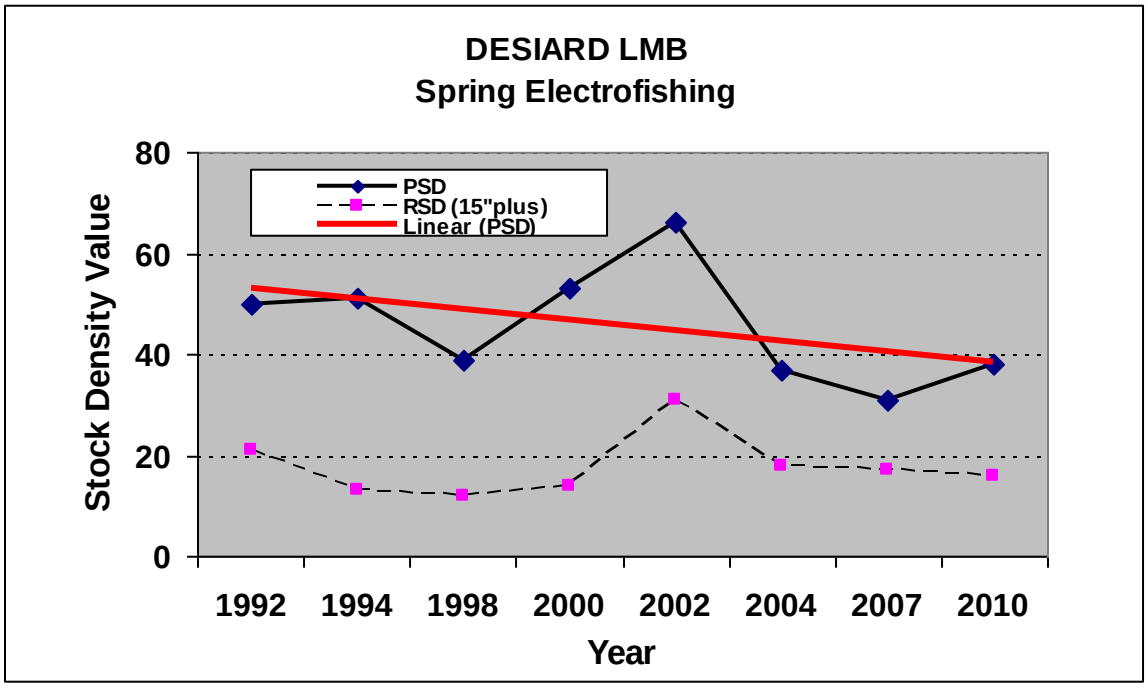

Figure 6. PSD and RSD values for largemouth bass collected during spring electrofishing in Bayou DeSiard, LA from 1992 – 2010.

The PSD value generated from spring 2007 electrofishing was 31, meaning that the ratio of 12 inch and larger bass to those 8 inches and larger was slightly skewed towards smaller fish. The trend line shows that PSD in Bayou DeSiard has been decreasing slowly since 1992. It should also be noted that the sample size of bass greater than 8 inches was 82 and 83, respectively, for 2004 and 2007, which was significantly lower than all other years. The threshold listed in the Inland Fisheries sampling manual is a minimum of 100 fish.

Relative stock density is the percentage of fish of a designated length in a group of fish greater than the minimum stock length (8 inches). For example, RSD of preferred size (≥ 15 inches for largemouth bass) would be the percentage of 15 inch or greater fish in a sample of stock size or greater fish and is represented by RSD_{15}. The RSD_{15} value generated from spring 2010 electrofishing is 16, which falls into the "accepted" range of 10 - 40. This means that 16% of 8 inch and greater bass were over 15 inches. This value appears to be close to the long term average for Bayou DeSiard. All RSD_{15} values are in the acceptable range. The spike for both values in 2002 is explained by that year having the highest catch of above stock size bass combined with the lowest catch of stock size bass from years 2000 – 2007. Water levels in Bayou DeSiard had similar fluctuations among spawning seasons from 1999-2001, normally fluctuating no more than 1 to 2 feet. One explanation for the high catch in 2002, could be that electrofishing was conducted at a time when many adult bass were shallow spawning, becoming more susceptible to electrofishing. This type of variation is often observed in a series of infrequent sampling results.

Largemouth Bass Genetics-

Genetic analysis was conducted in 1992, three years after the initial stocking of 3,200 Florida bass fingerlings. All of the 42 bass sampled were determined to be of the northern genotype. Florida bass are no longer being stocked into Bayou DeSiard.

Largemouth Bass Age and Growth-

Mean length at capture was determined for largemouth bass from year 2000 fall electrofishing. Age is determined by removing the sagittal otoliths from 10 fish per inch group and counting the number of annuli. This is done in the fall, when the outermost annulus is most easily seen. Figure 7 (below) shows that bass determined to be 1 year of age averaged 9.6 inches in length, whereas age 2 and age 3 fish averaged 12.4 and 13.9 inches respectively. In the chart below, bass depicted as Age 1 are approximately 1.5 years old; Age 2 fish are 2.5 year old, etc... Largemouth bass in Bayou DeSiard grow at a slightly slower rate than the state average. The statewide averages for length at age in the chart were calculated only from northern largemouth from lakes throughout the state. Growth rates are typically affected by forage abundance (see below), bass density, habitat quality, and genetics.

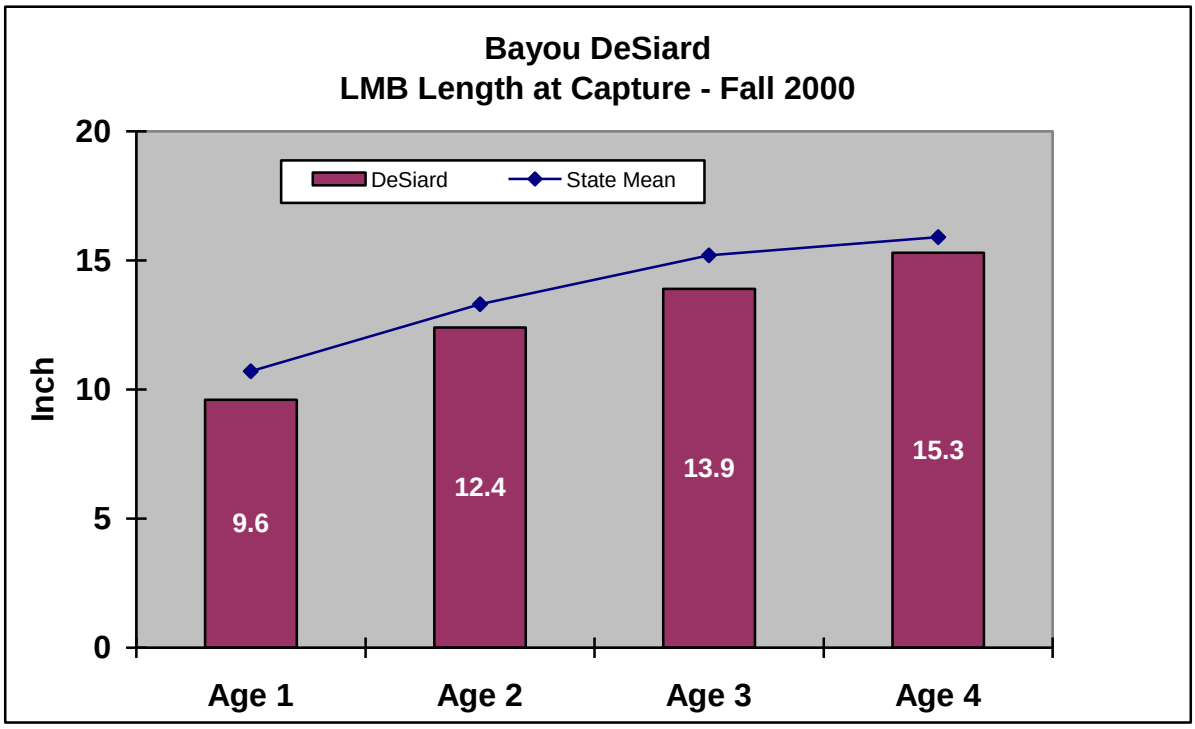

Figure 7. Mean length at capture of largemouth bass for ages 1+ – 4+ from Bayou DeSiard, LA in 2000.

Forage

Forage availability is measured through shoreline seine sampling and indirectly through measurement of largemouth bass body condition or relative weight. Relative weight (Wr) is the ratio of a fish's weight to the weight of a ''standard'' fish of the same length. The index is calculated by dividing the weight of a fish by the standard weight for its length, and multiplying the quotient by 100. Low largemouth bass relative weights below 80 indicate a potential problem with forage availability. The chart below (Figure 8) shows that relative weights have been ideal for each sample. This data was calculated from lengths and weights gathered from fall electrofishing samples. Lower bass densities since 2002 (as portrayed in the spring electrofishing chart) could explain a recent increase in relative weights, since competition for forage may be reduced. Sunfish, shads, and silversides have been identified as primary bass forage species in Bayou DeSiard.

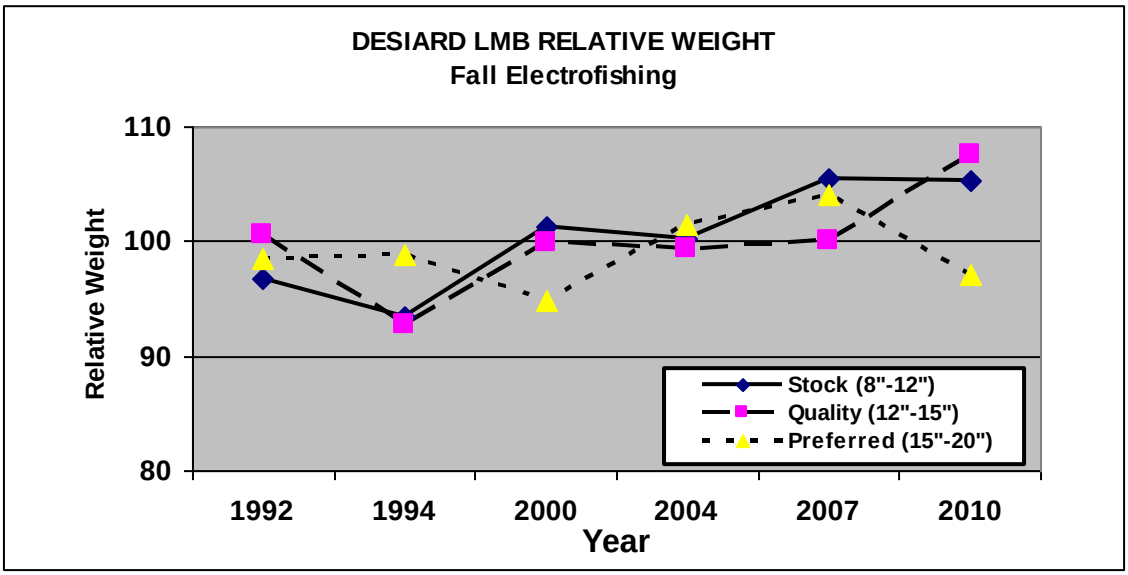

Figure 8. Relative weight (Wr) of stock-, quality-, and preferred-size largemouth bass from fall electrofishing in Bayou DeSiard, LA 1992 – 2010.

Crappie

Crappies have not been intensively sampled in Bayou DeSiard. Both black and white crappie exist in Bayou DeSiard, but black crappies are more abundant than white crappie. Crappie populations are very sensitive to environmental conditions such as temperature and water levels, and recruitment can be notoriously inconsistent in many water bodies. Rotenone sampling conducted from 1959 – 1964 revealed a mean total of 3.8 crappie per acre. The following chart (Figure 9) shows the mean number of black and white crappie over 7 inches per acre from past rotenone samples.

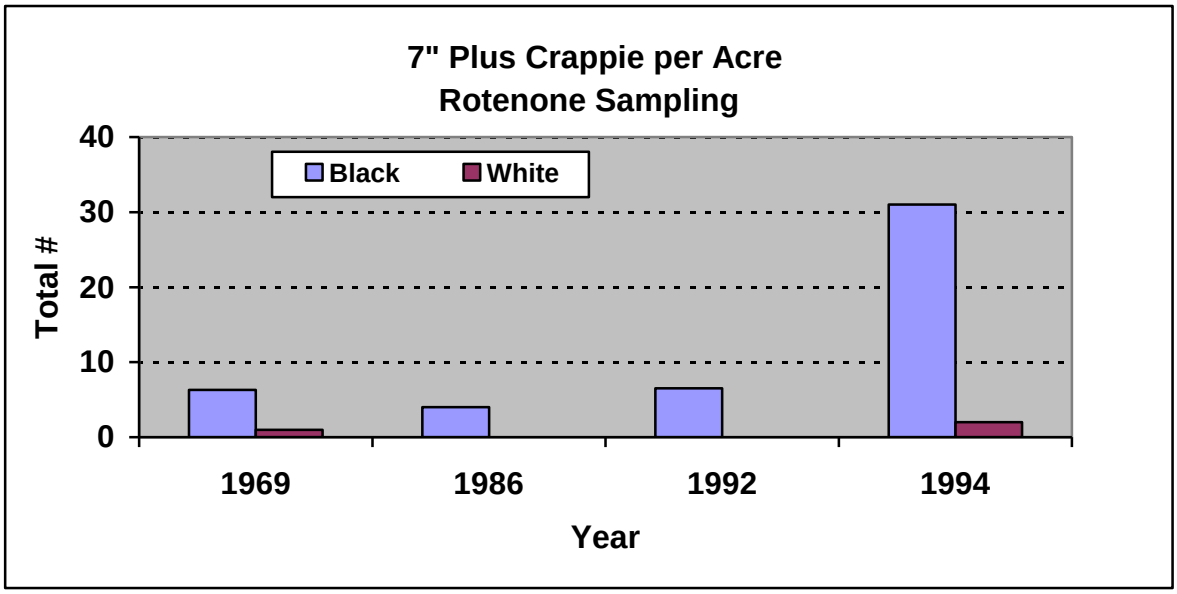

Figure 9. Total catch of crappie greater than seven inches total length from biomass (rotenone) samples for Bayou DeSiard, LA in 1969, 1986, 1992, and 1994.

Commercial

Commercial fishing has been limited to the portion of Bayou DeSiard south of Shorty Payne Rd. since 1994 when grass carp were stocked. There is currently little commercial activity on Bayou DeSiard. Preferred commercial species include bigmouth, black and smallmouth buffalo, and channel catfish. Annual rotenone samples from 1959 – 1964 showed an average of 55 lbs. of buffalo per acre sampled. The last 3 rotenone samples were conducted in 1986, 1992, and 1994. Pounds of buffalo per acre were 186, 1, and 37 respectively. Common carp and freshwater drum are also present. None of these species appear to be found in numbers necessary for a sustainable commercial fishery. The chart below (Figure 10) presents the CPUE for various species from the last 4 gill net samples. CPUE is defined as the catch per 100 ft. of net per net night. Three gill net samples conducted in 2009 captured two common carp and no buffalo, drum, or channel catfish.

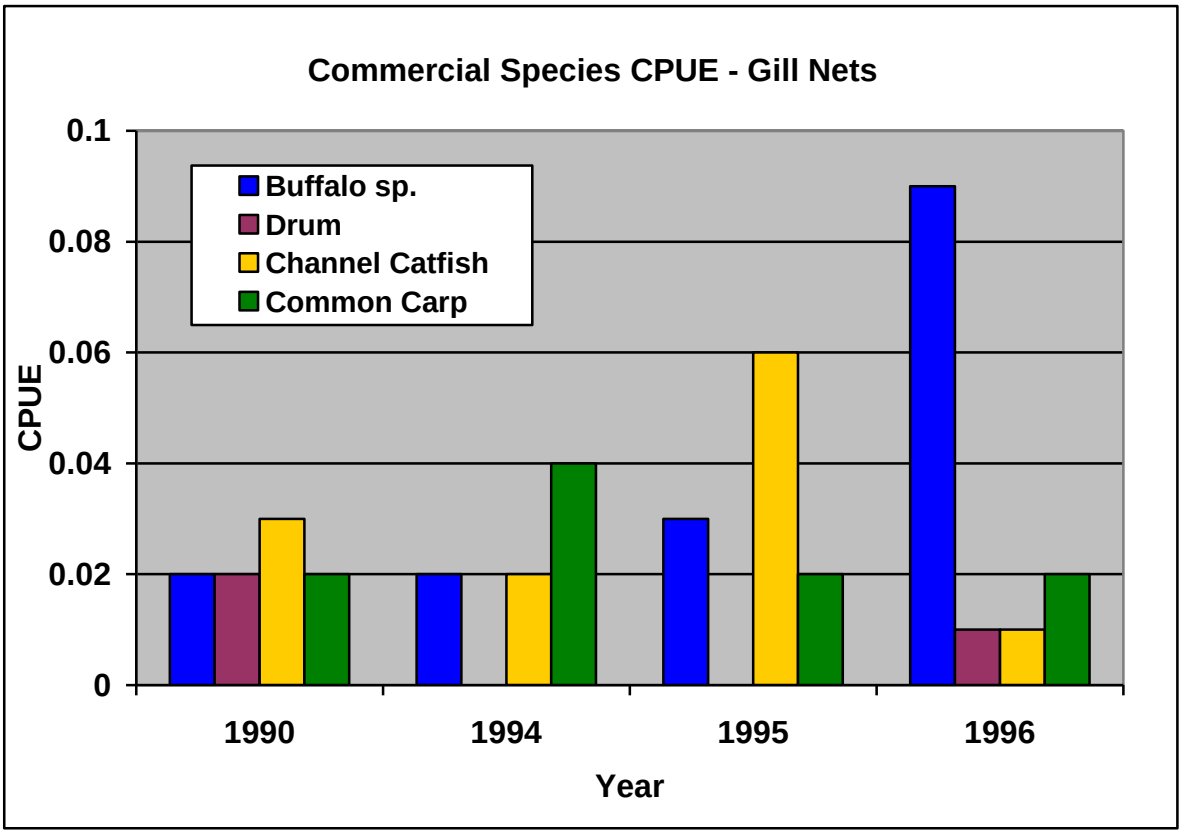

Figure 10. Catch per unit effort (CPUE) of commercial species captured in gill nets from Bayou DeSiard, LA in 1990, 1994, 1995, and 1996.

CREEL SURVEYS

The only creel surveys have been conducted on Bayou DeSiard (1959 and 1962). The estimated number of angler trips on Bayou DeSiard for those years was 28,638 and 34,533 respectively. Results from the 1962 creel census indicate that 92% of the anglers were successful. Bluegills were by far the most common species observed, constituting 65% of the fish checked. Crappie (25%), other sunfish (8%), and largemouth bass (2%) were also harvested in significant numbers. The average weight of largemouth bass kept by anglers was 1.51 pounds. Past estimates of fishing pressure exceed current estimates. Reasons for this disparity include: increased number of water bodies for anglers to choose from, decreased popularity of fishing, and decreased angler access. Angler access has declined significantly since these surveys were conducted. Much of the shoreline is now residential, with very limited or no public access to the lower sections of Bayou DeSiard. Shoreline fishing opportunities are also limited along the entire length of the water body.

HABITAT EVALUATION

The following aerial photos (Figures 11, 12, and13) show the variability in habitat between the northern and southern halves of Bayou DeSiard.

Figure 11. Aerial photo of southern end of Bayou DeSiard.

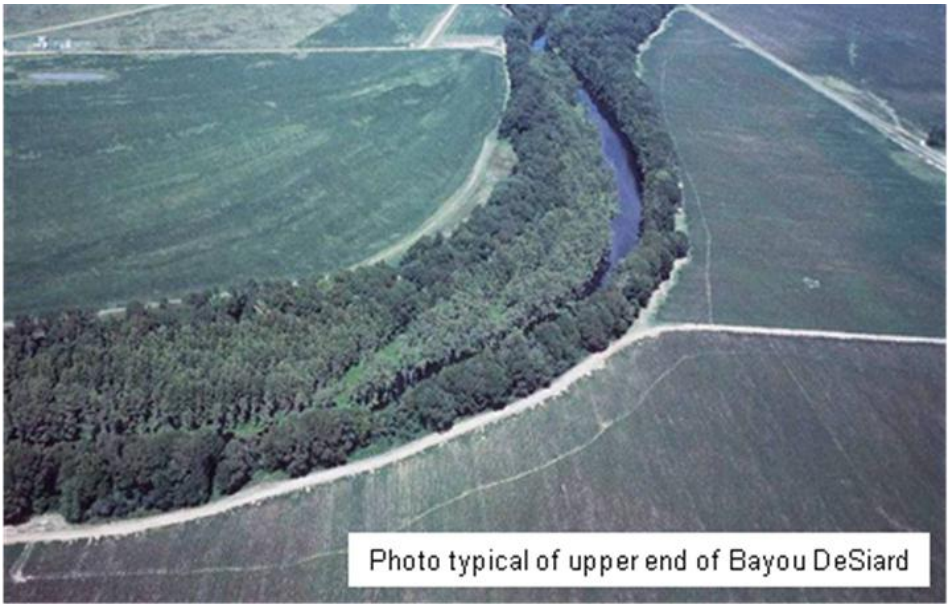

Figure 12. Aerial photo of northern end of Bayou DeSiard.

Figure 13. Aerial photo showing recent residential development on northern end of Bayou DeSiard.

Aquatic Vegetation

Aquatic vegetation is overabundant in the northern half of Bayou DeSiard and has been the primary problem of this waterbody for decades. Water hyacinth (*Eichhornia crassipes*) and duckweed (*Lemna spp.*) often form extensive mats in the northern reaches and reduce water quality by creating hypoxic conditions. Dense stands of bald cypress (*Taxodium distichum*) contribute to the problems by impeding flow and providing protection for nuisance vegetation. Agricultural sedimentation has led to a decrease in average depth, forming shallow areas where vegetation can thrive. There are also several bridges that constrict water flow, resulting in upstream accumulation of floating plants. The predominant submersed species in Bayou DeSiard are fanwort (*Cabomba caroliniana*) and coontail (*Ceratophyllum demersum*). These species form dense mats at times in the upper end. In contrast to the upper end of Bayou DeSiard (photo shown in Figure 14, below), habitat conditions in the lower reaches include deeper water and fewer trees. Aquatic vegetation in the lower end is seldom problematic and typically is confined to shoreline fringe. However, in the spring of 2012, a severe and problematic infestation was observed in the section between Bon Aire Drive and Midway dam, including the ULM waterski training area. LDWF treated the area in the immediate vicinity of the waterski area with a surface and subsurface application of diquat dibromide at a rate of 1 gal/acre. By mid June, the infestation had subsided, with coontail coverage returning to a normal desirable amount. Aquatic vegetation is expected to remain as a Bayou DeSiard problem as long as habitat in the upper end is conducive to overabundant vegetation growth.

Figure 14. Photo portraying habitat typical of the northern end of Bayou DeSiard

Substrate

The natural substrate of the bayou is mostly clay, typical of a low order stream in the Ouachita River Basin. Since impoundment in the 1930's, agricultural erosion, urban runoff, and senescence of aquatic vegetation have influenced the substrate composition. Silt and organic material has settled in much of the upper end of Bayou DeSiard and has resulted in poor spawning substrate for nesting fish species.

Type Maps

A type map survey of Bayou DeSiard north of the L-11 canal was conducted by LDWF staff on August 1, 2012 (App. II). Total SAV coverage was estimated to be 461 acres of this 830 acre area. The dominant submerged species were fanwort and coontail, which were near equal in coverage. Bladderwort was the only other SAV species that comprised significant coverage, estimated at 12 acres total. A small amount of hydrilla (*Hydrilla verticillata*) was documented at the extreme upper end, near the control structure connecting DeSiard with Lake Bartholomew. Much of the area infested with SAV was covered with duckweed, mosquito fern (*Azolla caroliniana*) and filamentous algae, which is being held in place by SAV that has reached the water surface. It should be noted that during the spring of 2012, slender pondweed (*Potamogeton pusillus*) had infested a large area in the upper end of Bayou DeSiard. However, slender pondweed was not observed during this survey. Coontail and fanwort are now present in those areas. Submerged vegetation is at a problematic level in most of the areas where it is present, growing to the surface in depths of less than six feet. Most of the upper end is less than six feet in depth. Floating and emergent vegetation observed included: American lotus, white water lily, water hyacinth, water primrose, parrot's feather, and water pennywort. Combined coverage of these species was less than 20 acres.

CONDITION IMBALANCE / PROBLEM

The majority of the problems associated with Bayou DeSiard include impaired habitat of anthropomorphic origin. The stream has been dammed at both ends and has several additional dams to further restrict water flow and public access. The habitat problems caused by the series of actions are outlined in MP-A and in the Aquatic Vegetation section above. Electrofishing results consistently indicate a direct relationship between largemouth bass abundance and habitat quality. Reduced sportfish abundance can be attributed to habitat problems in the northern portion of Bayou DeSiard.

The current habitat in the northern portion of Bayou DeSiard is conducive to excessive production of aquatic vegetation. The area serves as a production area for floating species (duckweed, water hyacinth) that eventually drift and impact shoreline residents downstream to the L-11 canal. Submerged species such as coontail and fanwort are also viewed as problematic in this area as well.

Actions necessary to achieve success would include all of the following:

1. Reduction in cypress stem density
2. Removal of water flow restrictions
    a. Widening of bridge spans
    b. Dredging shallow sediment deposits

3. Increasing extent to which the upper end can be dewatered

The lack of significant drawdown capability and the lake's primary purpose as a municipal water source limits the use of water level manipulation as a vegetation management tool. Water level fluctuation has become very limited, as the City has recently begun operation of pumps more frequently to maintain Bayou DeSiard at near pool stage year around. The practice of near-continuous pumping also negates the use of broad spectrum herbicides (ex. Sonar, Galleon) that require extended periods of contact time with very little water exchange.

Applications of foliar herbicide currently are the primary control measure available for aquatic vegetation problems in Bayou DeSiard. Herbicide applications also have limiting factors. Louisiana Department of Agriculture restrictions prohibit the application of 2, 4-D from March 15 through September 15. Access to spray boats is also limited due to shallow water and tree stem density. Other obstacles in vegetation control include:

1. pipeline crossings which impede flow and may prevent future dredging
2. limited drawdown capability
3. private and agricultural irrigation concerns
4. regulations pertaining to the city's water supply
5. near continuous pumping by the City of Monroe to maintain Bayou DeSiard near pool stage prevents use of certain systemic herbicides, which require prolonged exposure to control vegetation

Public access south of the L-11 Canal and Fink's Hideaway Rd. crossing is very limited. There is no access to the section immediately south of this crossing (L-11 to Midway Dam). The large section south of Midway Dam has public access by only one privately owned ramp. The section between Hwy 165 and Bon Aire Drive is no longer accessible. A barricade has been placed to prevent vehicle access to an unimproved dirt ramp on the U.S. 165 right-of-way. The large section west of U.S. 165 is also only accessed by an unimproved dirt area on private property.

An increasing number of residents building homes along the northern shorelines of Bayou DeSiard has resulted in an increase in vegetation complaints and increased interest in solving these inherent problems.

RECOMMENDATIONS

1. Continue cooperation with the Bayou DeSiard Restoration Committee and Bayou DeSiard-Bayou Bartholomew Cut-Off Loop Water Conservation Board in efforts to address habitat problems on the upper end of Bayou DeSiard including: removal of adequate number of cypress trees to increase flow, widening of railroad and road constrictions, dredging or raising the water level to reduce shallow areas, and increasing the drawdown potential to reduce plant growth on upper end (Corps of Engineers, Vicksburg District Draft, 2007).
   Source: March 2007. Draft of the Ecosystem Restoration Report with Environmental Assessment for Bayou DeSiard, Monroe, LA. U.S. Army Corps of Engineers, Vicksburg District. (Available at District 2 office).

2. Locate potential sites for increased angler access, including boat ramps or fishing piers, especially in the sections where public access is limited. Currently, there are plans to improve and increase trailer capacity at the Fish Hatchery ramp. Dedication of an area for shoreline anglers should also be investigated for this location. (UPDATE August 2012): An application by the City of Monroe for federal assistance via Sportfish Restoration funding had recently been denied. The City will reapply for funding. Asphalt was applied by the City to improve the parking area and the ramp in July 2012.

3. Continue to monitor mean CPUE and PSD values. Spring electrofishing samples should provide a minimum of 100 stock size or greater bass to make accurate assessments of PSD. Also, a CPUE goal of 100 bass from spring electrofishing would maintain the long-term average CPUE of 98.

4. Continue routine spraying of duckweed where it regularly forms large mats. Treatment will be made by spray pump surface application of diquat dibromide at a rate of 1 gallon per acre. Other nuisance emergent/floating vegetation should be treated as required with use of the following herbicides: 2,4-D (except during the time period 3/15 – 9/15) at 0.5 gal/acre for water hyacinth, American lotus, and alligator weed, glyphosate at .75 gal/acre for American lotus, water pennywort, alligator weed, and parrot's feather. Triclopyr (Renovate®) and isopropylamine of imazapyr (Habitat®) may be more effective on alligator weed, primrose, and parrot's feather but have irrigation restrictions. Ammonium salt of imazamox (Clearcast®) may be used near residential areas and pump intakes.

   The area in the immediate vicinity of the Bartholomew-DeSiard control structure at the upper end should be monitored at least once a month for the presence of hydrilla. If found, it should be immediately treated with a subsurface application of Cutrine Plus® chelated copper algaecide and diquat dibromide mixed at a 3:2 ratio. An application of granular endothall in the area may also be conducted.

5. Reduce the coverage of nuisance SAV by stocking triploid grass carp at a rate of ten per acre of SAV (461 acres north of L-11 canal) in the upper end. This would represent a total stocking of 4,600 triploid grass carp which should be at least 12 inches in length. The removal of SAV should also help prevent duckweed and algae from forming large surface mats where it is held in

place by the emergent portions of submersed plants. The grass carp stocking should be done in conjunction with a recommended stocking for Lake Bartholomew. The two waterbodies have a direct hydrologic connection in the form of a large culvert that extends under U.S. 165. Stocking should take place during late winter or early spring 2013. Prior to the stocking, a meeting should be held with the City of Monroe and the Bayou DeSiard-Bayou Bartholomew Cutoff Loop Water Conservation Board to inform and gain approval.

6. Install a floating boom north of the Black Bayou railroad trestle to prevent duckweed from flowing into more populated areas between there and the L-11 canal. The proper location should be identified by locating an area that will efficiently congregate floating vegetation and will not impact any residences. The boom should be configured to allow passage of boats. Herbicide treatments should be made on a regular basis to all floating vegetation congregated at the boom.

7. Monitor the section of Bayou DeSiard near the waterski area for the presence of submerged vegetation and treat when necessary with appropriate herbicides.

APPENDIX I

BLACK BAYOU WATER LEVEL PROPOSAL

WATER LEVEL MANAGEMENT

AT

BLACK BAYOU LAKE

A PROPOSAL
TO THE
CITY OF MONROE
AND
OUACHITA PARISH

BY:

U.S. FISH & WILDLIFE SERVICE

AND

LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES

The U.S. Fish & Wildlife Service and Louisiana Dept. of Wildlife & Fisheries would like to discuss the opportunity to manage the water level at Black Bayou Lake in a way that mimics its historic natural hydrological regime. Benefits of the natural water fluctuation regime include: control of excessive aquatic vegetation, improved water quality, increased fish reproduction, reduced stress to cypress and surrounding terrestrial timber, and reduced accretion of the lake (filling in). Effects of an altered water fluctuation regime are quite the opposite.

Recommendations:

1. The water level of Black Bayou should be maintained below elevation 70.5'MSL from May through July on an annual basis. Maximum pool stage is 72.0 ' MSL. When significant results are achieved, a reduction in frequency could be considered. Measurable objectives include control of aquatic vegetation and reduction of organic bottom substrate. A drawdown of Black Bayou to the 70.5' level does not include a water level reduction of Bayou DeSiard.
2. The water level of Black Bayou Lake should be drawn down to 67'MSL from August through December on at least a biennial basis. A drawdown of Black Bayou to the 67' level does include a water level reduction of Bayou DeSiard.
3. The lake should be maintained at the normal pool stage of 72.0' MSL from January through April.

Predictably, a lower than normal water level would not be universally accepted by shoreline residents of Bayou DeSiard. For that reason, it's important that the benefits of the management technique be well publicized. The primary benefit to residents along Bayou DeSiard as well as all other stakeholders is the control of aquatic vegetation. An improved sport fishery certainly would be popular to area anglers. The drawdown would also afford residents the opportunity for shoreline maintenance.

The recommendations above are the combined opinion of biologists with the U.S. Fish & Wildlife Service and Louisiana Department of Wildlife & Fisheries and are designed primarily to provide benefit to the aquatic resources of Black Bayou and Bayou DeSiard. Of course, there are other uses of the same water, most notably as the drinking water supply for the City of Monroe. Hopefully, through the collective efforts of all stakeholders, the recommendations above, or a suitable alternative can be implemented to provide maximum benefits to all.

APPENDIX II: 2012 Aquatic Vegetation Type Map

Bayou DeSiard Type Map
2012
Summary of Aquatic Vegetation Survey

Prepared by Kane Finkbeiner

Inland Fisheries personnel Kane Finkbeiner and Randy Lively surveyed Bayou DeSiard in Ouachita Parish for all types of aquatic vegetation on July 30. The survey was conducted by traveling the entire shoreline by boat and recording observations on the presence and abundance of all aquatic species onto a lake map. GPS data was also taken for species locations. The lake level on July 30 was 69.80 ft. (pool stage is 71'). This survey was conducted for the northern portion of the bayou between the L11 control structure and Highway 165 near Sterlington.

Overall Summary

SAV (submerged aquatic vegetation) has become very abundant in the northern portion of Bayou DeSiard. Coverage in many areas consists of bank to bank SAV making navigation nearly impossible with conventional boating equipment. Fanwort and coontail are the predominate species comprising approximately 99% of all SAV coverage. Bladderwort was seen as well south of the Shorty Payne Bridge. Hydrilla was found at the water control structure at Hwy 165 in Sterlington. The plants entered the waterbody through the direct connection of the control structure to Bartholomew Lake which has an established infestation. This occurrence was first noted about 1 year prior to this survey. Plants were removed when spotted but where again identified during later inspections. Emergent vegetation is found scattered in areas absent of cypress trees near the shoreline, including pipeline crossings and other clearings. Alligatorweed and primrose comprise the majority of the coverage in these locations. Parrotfeather is found in openings adjacent to the channel especially south of Hwy. 134. Pennywort was found within the area adjacent to Black Bayou Refuge. Duckweed and watermeal were found in conduction with SAV. The majority of this coverage was confined to upper reaches of the bayou from Centurylink Dr. north. Duckweed location however is highly variable due to flushing actions by rainfall and changes in wind direction and therefore may be found anywhere on the waterbody as changes occur. Light coverage of watermeal was also found at the southern end of the bayou near the L11 structure. Azolla was fairly abundant forming colonies in topped out SAV in the northern end of the bayou. American lotus was only seen in one location directly across from the LDWF District II office. White water lily was found sporadically on the shoreline between Centurylink Dr. and the railroad trestle south of Treasure Island.

Species List

Submersed Aquatic Vegetation (most to least abundant)

Fanwort - *Cabomba caroliniana*
Coontail - *Ceratophyllum demersum*
Bladderwort - *Utricularia spp.*
Hydrilla - *Hydrilla verticillata*

Emergent Aquatic Vegetation

Alligatorweed - *Alternanthera philoxeroides*
Pennywort - *Umbellata spp*.
Parrotfeather - *Myriophyllum aquatica*
Water Primrose - *Ludwigia uruguayensis*

Floating Aquatic Vegetation

Filamentous Algae - *Pithophora*
Duckweed - Lemna spp.
Watermeal - *Wolffia spp.*
Azolla - *Azolla caroliniana*
American Lotus *Nelumbo lutea*
White Water Lilly *Nymphaea odorata*
Water hyacinth *Eichhornia crassipes*